

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSPTAYLC1626

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

\* \* \* \* \* Welcome to STN International \* \* \* \* \*

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America  
NEWS 2 "Ask CAS" for self-help around the clock  
NEWS 3 SEP 09 ACD predicted properties enhanced in REGISTRY/ZREGISTRY  
NEWS 4 OCT 03 MATHDI removed from STN  
NEWS 5 OCT 04 CA/Caplus-Canadian Intellectual Property Office (CIPO) added  
to core patent offices  
NEWS 6 OCT 13 New CAS Information Use Policies Effective October 17, 2005  
NEWS 7 OCT 17 STN(R) AnaVist(TM), Version 1.01, allows the export/download  
of Caplus documents for use in third-party analysis and  
visualization tools  
NEWS 8 OCT 27 Free KWIC format extended in full-text databases  
NEWS 9 OCT 27 DIOGENES content streamlined  
NEWS 10 OCT 27 EPFULL enhanced with additional content  
NEWS 11 NOV 14 CA/Caplus - Expanded coverage of German academic research

NEWS EXPRESS NOVEMBER 18 CURRENT VERSION FOR WINDOWS IS V8.01,  
CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),  
AND CURRENT DISCOVER FILE IS DATED 13 JUNE 2005.  
V8.0 USERS CAN OBTAIN THE UPGRADE TO V8.01 AT  
<http://download.cas.org/express/v8.0-Discover/>

NEWS HOURS STN Operating Hours Plus Help Desk Availability  
NEWS INTER General Internet Information  
NEWS LOGIN Welcome Banner and News Items  
NEWS PHONE Direct Dial and Telecommunication Network Access to STN  
NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that  
specific topic.

All use of STN is subject to the provisions of the STN Customer  
agreement. Please note that this agreement limits use to scientific  
research. Use for software development or design or implementation  
of commercial gateways or other similar uses is prohibited and may  
result in loss of user privileges and other penalties.

\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 09:16:03 ON 25 NOV 2005

=> file caplus  
COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
0.42	0.42

FULL ESTIMATED COST

FILE 'CAPLUS' ENTERED AT 09:17:01 ON 25 NOV 2005

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 25 Nov 2005 VOL 143 ISS 23  
FILE LAST UPDATED: 24 Nov 2005 (20051124/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

<http://www.cas.org/infopolicy.html>

=> set plurals on perm  
SET COMMAND COMPLETED

=> set abbr on perm  
SET COMMAND COMPLETED

=> s ammonium carbamate or 1111-78-0

**REGISTRY INITIATED**

Substance data SEARCH and crossover from CAS REGISTRY in progress...  
Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

L2            709 L1

355851 AMMONIUM  
400 AMMONIUMS  
355995 AMMONIUM  
      (AMMONIUM OR AMMONIUMS)  
29114 CARBAMATE  
11060 CARBAMATES  
33744 CARBAMATE  
      (CARBAMATE OR CARBAMATES)  
850 AMMONIUM CARBAMATE  
      (AMMONIUM(W) CARBAMATE)

L3            954 AMMONIUM CARBAMATE OR L2

=> s decompose and L2  
5194 DECOMPOSE  
4796 DECOMPOSES  
9671 DECOMPOSE  
      (DECOMPOSE OR DECOMPOSES)  
49663 DECOMP  
19971 DECOMPS  
67870 DECOMP  
      (DECOMP OR DECOMPS)  
76957 DECOMPOSE  
      (DECOMPOSE OR DECOMP)

L4            16 DECOMPOSE AND L2

```
=> s urea and L4
      203514 UREA
      9331 UREAS
      206328 UREA
              (UREA OR UREAS)
L5      8 UREA AND L4

=> s water and L5
      2308321 WATER
      251452 WATERS
      2363113 WATER
              (WATER OR WATERS)
L6      1 WATER AND L5

=> d 14
```

L4 ANSWER 1 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2005:604591 CAPLUS  
TI A Spectroscopic Study of the Dissolution of Cesium Phosphomolybdate and  
Zirconium Molybdate by Ammonium Carbamate  
AU Jiang, Jun; May, Iain; Sarsfield, Mark J.; Ogden, Mark; Fox, Danny O.;  
Jones, Chris J.; Mayhew, Philip  
CS Centre for Radiochemistry Research, School of Chemistry, The University  
of  
Manchester, Manchester, M13 9PL, UK  
SO Journal of Solution Chemistry (2005), 34(4), 443-468  
CODEN: JSLCAG; ISSN: 0095-9782  
PB Springer Science+Business Media, Inc.  
DT Journal  
LA English  
RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d his

(FILE 'HOME' ENTERED AT 09:16:03 ON 25 NOV 2005)

FILE 'CAPLUS' ENTERED AT 09:17:01 ON 25 NOV 2005  
SET PLURALS ON PERM  
SET ABBR ON PERM  
S AMMONIUM CARBAMATE OR 1111-78-0/REG#

FILE 'REGISTRY' ENTERED AT 09:18:29 ON 25 NOV 2005  
L1 1 S 1111-78-0/RN

FILE 'CAPLUS' ENTERED AT 09:18:29 ON 25 NOV 2005  
L2 709 S L1  
L3 954 S AMMONIUM CARBAMATE OR L2  
L4 16 S DECOMPOSE AND L2  
L5 8 S UREA AND L4  
L6 1 S WATER AND L5

=> dp 14 15 16

DP IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.  
For a list of commands available to you in the current file, enter  
"HELP COMMANDS" at an arrow prompt (=>).

=> duplicate remove

ENTER L# LIST OR (END):14 15 16

PROCESSING COMPLETED FOR L4

PROCESSING COMPLETED FOR L5

PROCESSING COMPLETED FOR L6

L7 16 DUPLICATE REMOVE L4 L5 L6 (9 DUPLICATES REMOVED)

=> d ibib abs total

L7 ANSWER 1 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2005:604591 CAPLUS  
 TITLE: A Spectroscopic Study of the Dissolution of Cesium Phosphomolybdate and Zirconium Molybdate by Ammonium Carbamate  
 AUTHOR(S): Jiang, Jun; May, Iain; Sarafian, Mark J.; Ogden, Mark; Fox, Danny G.; Jones, Chris J.; Mayhew, Philip  
 CORPORATE SOURCE: Centre for Radiochemistry Research, School of Chemistry, The University of Manchester, Manchester, M13 9PL, UK  
 SOURCE: Journal of Solution Chemistry (2005), 34(4), 443-468  
 CODEN: JSOLAG; ISSN: 0095-9782  
 PUBLISHER: Springer Science+Business Media, Inc.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB Through a combination of Raman spectroscopy, multi-element NMR spectroscopy and chemical anal., the differences between the action of carbonate and carbamate as agents for dissolving Cs3PMo12O40·xH2O(s) (CPM) and ZrMo2O7(OH)2·(H2O)2(s) (ZM) have been elucidated. Alkaline H2NCO2-/HCO3-/CO32- solns., derived from the dissoln. of ammonium carbamate (NH4H2NCO2; AC), dissolve CPM by base hydrolysis of the PMo12O403- Keggin anion, ultimately forming [MoO4]2- and PO43- when excess base is present. If the initial concentration of H2NCO2-/HCO3-/CO32- is lowered, base hydrolysis is incomplete and the dissolved species include [Mo7O24]6- and [P2Mo5O23]6-, and undissolved solid Cs3PMo12O40, CsNH7·xPMo11O39, and CsNH6·xMo7O24 remain. Na2CO3 solns. dissolve Cs3PMo12O40 through a similar mechanism, but the dissoln. rate is much lower. The authors attribute this difference to the different buffering effects of H2NCO2-/HCO3-/CO32- and CO32-/HCO3- solns., and the instability of carbamic acid, the protonated form of H2NCO2- (which rapidly decomp. into NH3 and CO2). The ability of NH3 to produce NH4+ and OH-, together with the evolution of CO2 gas, drive the reaction forward. Low temperature measurements under conditions where pure H2NCO2- is kinetically stable, allowed the rates of dissoln. of CPM by H2NCO2- and CO32- to be compared directly, confirming the faster dissoln. by H2NCO2-. Compared to CPM, the dissoln. of ZM by H2NCO2-/HCO3-/CO32- is a much slower process and is driven by the formation of soluble ZrIV-carbonate complexes and MoO42-. The driving force for the dissoln. of ZM is the superior complexing ability of carbonate over carbamate; consequently solns. containing a higher carbonate concentration dissolve ZM faster.  
 REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE  
 FORMAT

L7 ANSWER 3 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2004:472941 CAPLUS  
 DOCUMENT NUMBER: 141:9251  
 TITLE: Blowing agents for fabrication of porous igniter coatings for inflation of vehicle airbags  
 INVENTOR(S): Mendenhall, Ivan V.; Parkinson, David W.  
 PATENT ASSIGNEE(S): USA  
 SOURCE: U.S. Pat. Appl. Publ., 13 pp., Cont.-in-part of U.S. Pat. Appl. 2004 89,383.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 3  
 PATENT INFORMATION:  

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004108030	A1	20040610	US 2003-726313	20031202
US 2004108029	A1	20040610	US 2002-313819	20021206
US 6843869	B2	20050118		
US 2004089383	A1	20040513	US 2003-359962	20030206
PRIORITY APPLN. INFO.:			US 2002-313819	A2 20021206
			US 2003-359962	A2 20030206

AB A porous igniter coating for enhancing ignition of propellants, especially for inflation of vehicle airbags, contains, in addition to a fuel and an oxidizer, a polymeric binder and a blowing agent. The ignition composition, upon heating to decompose the blowing agent, forms the porous igniter substance with increased surface area that can adhere to the inflation apparatus surface. Suitable fuels are powdered metals, especially aluminum, magnesium, aluminum-magnesium alloys, boron, and guanidine nitrate. Polymeric binders include modified cellulose polymers, acrylate polymers, and polyacrylamide, preferably hydroxypropyl cellulose. Suitable blowing agents include aminoguanidine bicarbonate, ammonium oxalate, ammonium carbamate, ammonium bicarbonate, and 4,4'-oxydibenzene-sulfonyl hydrazide. The precursor igniter coating is preferably heated to 130-170°.

L7 ANSWER 2 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2005:26122 CAPLUS  
 DOCUMENT NUMBER: 143:308583  
 TITLE: Aluminum borates: synthesis via a precipitation process and study of their formation by DSC analysis  
 AUTHOR(S): Douy, Andre  
 CORPORATE SOURCE: Centre de Recherches sur les Matériaux à Haute Température, CNRS, Orleans, 45071, Fr.  
 SOURCE: Solid State Sciences (2005), 7(1), 117-122  
 CODEN: SSSCFJ; ISSN: 1293-2558  
 PUBLISHER: Elsevier B.V.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB Aluminum borates have been synthesized via a precipitation process. Their formation has been studied by DSC anal. and X-ray diffraction. Aqueous solns. of aluminum nitrate and boric acid in various proportions were precipitated into solns. of ammonium carbonate, acting as a base like ammonia. The resulting mixts. were evaporated to dryness in order to recover the soluble boron species (ammonium borate). The byproduct ammonium nitrate was decomposed at 300 °C. The DSC anal., at 5 K min-1, showed the crystallization temperature of aluminum borates to decrease regularly with the increase of the boron content in the sample, from 900 °C for the A9B2 compound (abbreviation of 9Al2O3·2B2O3) to 670 °C for a composition "AB2". A9B2 was stable, at least up to 1200 °C. For boron-rich compns., like "A6B2", a boron-excess A9B2 solid solution was crystallized at the detriment of A4B2. This metastable solid solution decomposed at 1000 °C into A9B2 and boron oxide. Even for the composition "A4B2", A9B2 crystallized along with A4B2. The latter compound was found to be stable up to 1000 °C, and to decompose into A9B2 and boron oxide at higher temperature, without any sign of melting. This decomposition was confirmed by thermogravimetric anal. The problem of volatilization of boric acid or boric oxide, often encountered in the synthesis of borates, is avoided.  
 REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE  
 FORMAT

L7 ANSWER 4 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2002:594787 CAPLUS  
 DOCUMENT NUMBER: 137:145135  
 TITLE: Osmotic desalination process  
 INVENTOR(S): McGinnis, Robert  
 PATENT ASSIGNEE(S): Yale University, USA  
 SOURCE: PCT Int. Appl., 23 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:  

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002060825	A2	20020808	WO 2002-US2740	20020201
WO 2002060825	A3	20021219		
W:	AB, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BE, CA, CH, CM, CO, CR, CU, CZ, DE, DK, DM, DO, EC, EE, ES, FI, GB, GD, GE, GR, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
EP 1355859	A2	20031029	EP 2002-714804	20020201
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
US 2005145568	A1	20050707	US 2003-486957	20020201
PRIORITY APPLN. INFO.:			US 2001-265745P	P 20010201
			WO 2002-US2740	W 20020201

AB An energy efficient desalination process that does not produce waste products involves the extraction of water from a first solution, such as seawater, by using a second concentrated solution to draw the water from the first solution across a semi-permeable membrane. By manipulating the equilibrium of the soluble and insol. species of solute within the second solution in favor of the soluble species of the solute, a saturated second solution can be used to generate osmotic pressure on the first solution. Also, by adjusting the equilibrium in favor of the less soluble species after the water has been drawn from the first solution, a portion of the solute can easily be precipitated out. Heating the second solution decomp. the solute into its constituent gases. The constituent gases and precipitated solute may be recycled through the process to affect the changes in equilibrium and eliminate waste products. Addnl., by using the waste steam from industrial sources and a heat pump to effectively distribute heat through the present method, the present method exhibits greater energy efficiency than prior art methods.

L7 ANSWER 5 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2001:319778 CAPLUS  
DOCUMENT NUMBER: 134:342189  
TITLE: Reduction of HF by flame-extinguishing composition  
INVENTOR(S): Stewart, Harry E.; Macelwee, Donald B.  
PATENT ASSIGNEE(S): Powsus, Inc., USA  
SOURCE: PCT Int. Appl., 25 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 2  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001030451	A1	20010503	WO 2000-US29298	20001024
W: CA, AM, AZ, BY, KG, KE, MD, RU, TJ, TM				
PRIORITY APPLN. INFO.:			US 1999-427891	A 19991026

AB The invention comprises a substantially non-aqueous, flame-extinguishing composition for extinguishing a fire at the sight of a potential flame comprising a fluorocarbon in admixt. with a gelled powder additive comprising salts of weak acids which decompose at the temperature of the sight to reduce or eliminate HF released by the composition when used to extinguish flames.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE  
FORMAT

L7 ANSWER 6 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 1  
ACCESSION NUMBER: 1997:56085 CAPLUS  
DOCUMENT NUMBER: 126:76494  
TITLE: Synthesis of urea in recycling system with high-pressure centrifugal compressor  
INVENTOR(S): Yokoi, Tadashi  
PATENT ASSIGNEE(S): Toyo Engineering Corp, Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08291130	A2	19961105	JP 1995-101089	19950425
PRIORITY APPLN. INFO.:			JP 1995-101089	19950425

AB Urea is stably synthesized by treating NH<sub>3</sub> with CO<sub>2</sub> in a synthetic region to give liqs. containing urea, H<sub>2</sub>O, NH<sub>3</sub>, and NH<sub>2</sub>CO<sub>2</sub>H, contacting the liqs. with CO<sub>2</sub> under heating to decompose NH<sub>2</sub>CO<sub>2</sub>H and sep. mixed gases of NH<sub>3</sub>, H<sub>2</sub>O, and CO<sub>2</sub> from urea aqueous liqs., contacting the mixed gases with an absorbing medium under cooling in a high-pressure centrifugal compressor with a magnetic bearing and a motor in a case and with no exposed rotating axis on the case, to generate liquid condensates or gas-liquid mixts. which are re-introduced into the synthetic region by the compressor pressure.

L7 ANSWER 7 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1996:190948 CAPLUS  
DOCUMENT NUMBER: 124:235065  
TITLE: Ammonium bicarbonate/ammonium carbamate activated benzyl alcohol paint stripper  
INVENTOR(S): Distaso, John  
PATENT ASSIGNEE(S): Elf Atochem North America, Inc., USA  
SOURCE: Can. Pat. Appl., 23 pp.  
CODEN: CFXKXB  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CA 2156660	AA	19951020	CA 1995-2156660	19950822
CA 2156660	C	20001003		
US 5569410	A	19961029	US 1994-340919	19941117
AU 9528571	A1	19960523	AU 1995-28571	19950817
AU 689610	B2	19980402		
IL 115031	A1	20000601	IL 1995-115031	19950822
ZA 19507134	A	19960417	ZA 1995-7134	19950828
EP 712911	A2	19960522	EP 1995-113523	19950829
EP 712911	A3	19971001		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, PT, SE				
CN 1123812	A	19960605	CN 1995-109563	19950925
CN 1054873	B	20000726		
JP 08253713	A2	19961001	JP 1995-319763	19951115
JP 2915336	B2	19990705		
BR 9505201	A	19970916	BR 1995-5201	19951116
US 5744438	A	19980428	US 1996-686787	19960726
PRIORITY APPLN. INFO.:			US 1994-340919	A 19941117

AB Stripping action of an alkaline paint stripper is improved when ammonia is partially or completely replaced with ammonium bicarbonate or chemical equivalent thereof which decomps. into ammonia and CO<sub>2</sub>. A benzyl alc. solvent system containing at least ammonium bicarbonate is preferably a water-in-oil emulsion emulsified with oleic hydroxyethyl imidazoline and thickened with hydroxypropyl cellulose or hydroxypropyl methylcellulose.

A mixture of ammonium carbamate and ammonium bicarbonate identified as ammonium carbonate is the preferred activator for this alkaline paint stripper. Improved stripping can also be provided by reacting ammonium bicarbonate and ammonia in situ within the water-in-oil emulsion.

## L7 ANSWER 8 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 2

ACCESSION NUMBER: 1992:636709 CAPLUS  
DOCUMENT NUMBER: 117:236709  
TITLE: Production of urea at high efficiency  
INVENTOR(S): Granelli, Franco; Carloni, Giuseppe  
PATENT ASSIGNEE(S): SNAMPROGETTI S.p.A., Italy  
SOURCE: Eur. Pat. Appl., 10 pp.  
CODEN: EPXXDM  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 504966	A1	19920923	EP 1992-200626	19920304
EP 504966	B1	19941207		
R: AT, DE, ES, FR, GR, PT				
IN 178098	A	19970308	IN 1990-MA662	19900821
ES 2065124	T3	19950201	ES 1992-200626	19920304
US 5359140	A	19941025	US 1992-854298	19920319
CA 2063638	AA	19920923	CA 1992-2063638	19920320
CA 2063638	C	20051108		
BR 9200986	A	19921117	BR 1992-986	19920320
RU 2043336	C1	19950910	RU 1992-5011231	19920320
CN 1065452	A	19921021	CN 1992-101898	19920321
CN 1035003	B	19970528		
PRIORITY APPLN. INFO.:				
			IN 1990-MA662	A 19900821
			IT 1991-MI778	A 19910322

AB In preparation of urea by reaction of NH<sub>3</sub> and CO<sub>2</sub>, the urea solution produced is passed through a 1st thermal decomposer to decompose a part of residual NH<sub>2</sub>COONH<sub>4</sub> into its components, then treated with an adiabatic stripper to strip the free NH<sub>3</sub> with CO<sub>2</sub>, and treated with 2 further carbamate thermal decomposition. The gaseous products obtained from the various stages at pressure less than the synthesis pressure are mixed with the recycle solns. from the downstream stages, condensed, and recycled.

## L7 ANSWER 10 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 4

ACCESSION NUMBER: 1983:405232 CAPLUS  
DOCUMENT NUMBER: 99:5232  
TITLE: Urea  
INVENTOR(S): Van Nassau, Petrus Johannes Marie; Biermans, Andreas  
Johannes; Jonckers, Kees; De Cooker, Mario Gustaaf  
Roger  
PATENT ASSIGNEE(S): Unie van Kunstmeestfabrieken B. V., Neth.  
SOURCE: PCT Int. Appl., 33 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8300861	A1	19830317	WO 1982-EP187	19820831
W: AU, BR, HU, JP, KP, NO, RO, SU, US				
RW: DE, FR, GB, NL				
NL 8104039	A	19830405	NL 1981-4039	19810901
ZA 8205789	A	19830629	ZA 1982-5789	19820810
DD 204250	A5	19831123	DD 1982-242880	19820830
AU 8288258	A1	19830328	AU 1982-88258	19820831
ES 515378	A1	19830501	ES 1982-515378	19820831
JP 58501374	T2	19830818	JP 1982-502599	19820831
EP 86804	A1	19830831	EP 1982-902529	19820831
R: DE, FR, GB, NL				
BR 8207840	A	19830906	BR 1982-7840	19820831
HU 32552	O	19840828	HU 1982-3095	19820831
GB 2107704	A1	19830505	GB 1982-24952	19820901
NO 8301532	A	19830429	NO 1983-1532	19830429
PRIORITY APPLN. INFO.:				
			NL 1981-4039	A 19810901
			WO 1982-EP187	A 19820831

AB A process for the manufacture of the title compound from NH<sub>3</sub> and CO<sub>2</sub> at elevated temps. and pressures having a reaction zone and a stripping zone was described. In the reaction zone, CO<sub>2</sub> and a portion of NH<sub>3</sub> are converted to ammonium carbamate (I), which is converted to urea, the combined conversion resulting in a net formation of heat. In the stripping zone, a urea product stream containing unconverted I is heated by heat exchange with the reaction zone to decompose a portion of I. The reaction zone is maintained at a pressure of between .apprx.125 and 250 bar, and the stripping zone is maintained at a pressure lower than the pressure on the reaction zone.

## L7 ANSWER 9 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 3

ACCESSION NUMBER: 1983:405233 CAPLUS  
DOCUMENT NUMBER: 99:5233  
TITLE: Urea  
INVENTOR(S): Van Nassau, Petrus Johannes Marie; Biermans, Andreas  
Johannes; Jonckers, Kees; De Cooker, Mario Gustaaf  
Roger  
PATENT ASSIGNEE(S): Unie van Kunstmeestfabrieken B. V., Neth.  
SOURCE: PCT Int. Appl., 33 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8300862	A1	19830317	WO 1982-EP188	19820831
W: AU, BR, HU, JP, KP, NO, RO, SU, US				
RW: DE, FR, GB, NL				
NL 8104040	A	19830405	NL 1981-4040	19810901
ZA 8205788	A	19830629	ZA 1982-5788	19820810
IN 157894	A	19860719	IN 1982-CA993	19820826
DD 203715	A5	19831102	DD 1982-242879	19820830
AU 8288257	A1	19830328	AU 1982-88257	19820831
ES 515377	A1	19830501	ES 1982-515377	19820831
JP 58501373	T2	19830818	JP 1982-502598	19820831
EP 86805	A1	19830831	EP 1982-902530	19820831
EP 86805	B1	19860709		
R: DE, FR, GB, NL				
BR 8207839	A	19830906	BR 1982-7839	19820831
HU 34001	O	19850128	HU 1982-3094	19820831
GB 2107705	A1	19830505	GB 1982-24953	19820901
GB 2107705	B2	19850904		
NO 8301531	A	19830429	NO 1983-1531	19830429
US 4540813	A	19850910	US 1983-496117	19830502
PRIORITY APPLN. INFO.:				
			WO 1982-EP188	A 19820831

AB A process for the manufacture of the title compound from NH<sub>3</sub> and CO<sub>2</sub> at elevated temps. and pressures having a reaction zone and a stripping zone was described. In the reaction zone, CO<sub>2</sub> and a portion of NH<sub>3</sub> are converted to ammonium carbamate (I), which is converted to urea, the combined conversion resulting in a net formation of heat. In the stripping zone, a urea product stream containing unconverted I is heated by heat exchange with the reaction zone to decompose a portion of I. In the reaction zone, the conversion of I into urea is continued until the quantity of urea formed is at least 50% of the quantity of urea that would be obtained at equal, under the reaction conditions present in the reaction zone.

## L7 ANSWER 11 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 5

ACCESSION NUMBER: 1982:20570 CAPLUS  
DOCUMENT NUMBER: 96:20570  
TITLE: Heat recovery in urea synthesis process  
PATENT ASSIGNEE(S): Mitsui Toatsu Chemicals, Inc., Japan/ Toyo  
Engineering Corp.  
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 56110662	A2	19810901	JP 1980-12007	19800205
JP 61021548	B4	19860527		
PRIORITY APPLN. INFO.:				
			JP 1980-12007	A 19800205

AB Aqueous solns. of reaction products of NH<sub>3</sub> with CO<sub>2</sub> which contain urea [57-13-6] and ammonium carbamate (I) [1111-78-0] are treated to decompose I into NH<sub>3</sub> and CO<sub>2</sub>. The NH<sub>3</sub>-CO<sub>2</sub>-H<sub>2</sub>O mixture is condensed, distilled, and condensed. The heat released by the condensation process is used to heat the above urea solution for evaporation.



L7 ANSWER 12 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 6  
ACCESSION NUMBER: 1975:139442 CAPLUS  
DOCUMENT NUMBER: 82:139442  
TITLE: Urea  
INVENTOR(S): Kanai, Kazumichi; Kimura, Tetsuo; Hashimoto, Yoriyoshi  
PATENT ASSIGNEE(S): Mitsui Toatsu Chemicals, Inc.  
SOURCE: Jpn. Tokkyo Koho, 3 pp.  
CODEN: JAXXAD  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 49019261	B4	19740516	JP 1970-7691	19700130
PRIORITY APPLN. INFO.:			JP 1970-7691	A 19700130

AB In manufacturing urea from NH<sub>3</sub> and CO<sub>2</sub>, the resultant liquor containing urea and H<sub>2</sub>NCO<sub>2</sub>NH<sub>4</sub> was fed into the upper part of a heat-exchanger and contacted countercurrently with NH<sub>3</sub> and CO<sub>2</sub> fed from the bottom of the heat-exchanger using the heat of condensation from the contact to decompose the H<sub>2</sub>NCO<sub>2</sub>NH<sub>4</sub>. This invention resulted in less steam consumption compared to a conventional process. An apparatus diagram and one example were given.

L7 ANSWER 13 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 7  
ACCESSION NUMBER: 1972:526041 CAPLUS  
DOCUMENT NUMBER: 77:126041  
TITLE: Urea synthesis  
INVENTOR(S): Villiers-Fisher, John Frederick; Kaupas, Philip Francis  
PATENT ASSIGNEE(S): Chemical Construction Corp.  
SOURCE: Fr., 22 pp.  
CODEN: FRXXAK  
DOCUMENT TYPE: Patent  
LANGUAGE: French  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2095106		19720310	FR 1971-20761	19710608
GB 1327321			GB	

AB In the synthesis of urea from NH<sub>3</sub> and CO<sub>2</sub>, effluent liquor containing H<sub>2</sub>NCO<sub>2</sub>NH<sub>4</sub> (I) and excess NH<sub>3</sub> was submitted to 30-350 kg/cm<sup>2</sup> pressure, then treated with addnl. CO<sub>2</sub> in an outside heated zone to decompose I and remove excess NH<sub>3</sub> and CO<sub>2</sub>, which were passed through a heat exchanger to form more I, in turn recycled to increase the yield of urea. The decrease in H<sub>2</sub>O from I recycle decreased the H<sub>2</sub>O from the urea synthesis and increased the yield from 67 to 75%, while reducing the energy required for evaporation by .apprx.25%.

L7 ANSWER 14 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1972:519864 CAPLUS  
DOCUMENT NUMBER: 77:119864  
TITLE: Low-density dielectric coatings for electrodes in electron tube  
INVENTOR(S): Hutchins, Thomas B., IV  
SOURCE: U.S., 3 pp.  
CODEN: USXXAM  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3687723	A	19720829	US 1970-20397	19700317
PRIORITY APPLN. INFO.:			US 1970-20397	A 19700317

AB A dielec. coating characterized by its porosity, low d., and high mech. strength and coherence as well as improved elec. properties is described. MgCO<sub>3</sub> was mixed with an additive in a liquid carrier and deposited in a thin film on a substrate. Suitable additives are azodicarbonamide, ammonium carbamate, and ammonium tetrafluoroborate, which decompose into volatile products at low temps. without passing through a liquid phase. After deposition, the film was allowed to dry on the substrate and then the coated substrate was baked at a sufficient temperature to purge the additive and convert the MgCO<sub>3</sub> to MgO. The voids left by vaporization of the additive result in a low-d. porous layer of MgO on the substrate which has desirable mech. and elec. properties. Such coatings on the target of a storage cathode-ray tube allow writing speeds >100 MHz to be viewed directly and then recorded photog. if desired, without special photog. techniques.

L7 ANSWER 15 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 8  
ACCESSION NUMBER: 1969:449356 CAPLUS  
DOCUMENT NUMBER: 71:49356  
TITLE: Urea having a low ammonium carbamate content  
INVENTOR(S): Guadalupi, Mario; Zardi, Umberto  
PATENT ASSIGNEE(S): Snamprogetti SpA  
SOURCE: S. African, 10 pp.  
CODEN: SFXKAB  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 2  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
ZA 6804613	A	19681212	ZA 1968-4613	19680602
NO 145949	B	19820322	NO 1968-2461	19680621
NO 145949	C	19820630		
NL 161137	C	19800115	NL 1968-8895	19680625
NL 161137	B	19790815		
JP 54032767	B4	19791016	JP 1968-47203	19680708
CS 155191	B2	19740530	CS 1968-6495	19680916
PRIORITY APPLN. INFO.:			IT 1967-21027	A 19670929

AB CO<sub>2</sub> is treated with excess NH<sub>3</sub> to give urea (I) that is contaminated with NH<sub>2</sub>CO<sub>2</sub>NH<sub>4</sub> (II) and unreacted NH<sub>3</sub>. Thin films of the product are passed over a heated surface, which decompose a portion of II, and the decomposition products (NH<sub>3</sub> and CO<sub>2</sub>) are recycled to leave I with reduced II content. E.g., NH<sub>3</sub> and CO<sub>2</sub> were combined (3:1 mole ratio) at 180° and 150 atmospheric to yield 55% I (based on CO<sub>2</sub>) that contained 48% II. The product was passed over the surfaces of a thin-film heat exchanger operating at the same conditions as the reactor to yield I that contained only 8% II.

L7 ANSWER 16 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1959:37109 CAPLUS  
DOCUMENT NUMBER: 53:37109  
ORIGINAL REFERENCE NO.: 53:6620g-h  
TITLE: Decreasing water consumption in fighting fires  
INVENTOR(S): Harsanyi, Steven  
PATENT ASSIGNEE(S): Alfina Immobilien-, Finanzierungs- &  
Verwaltungs-Akt.-Ges.  
DOCUMENT TYPE: Patent  
LANGUAGE: Unavailable  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CH 327930		19580331	CH	

AB Water consumption is reduced to 5% of the amount usually used by adding a surface-tension-decreasing agent and about 2% NH<sub>4</sub> carbonate, bicarbonate, or carbamate to the water, and applying the solution to the fire with a low-pressure fog nozzle. As the fog droplets are heated by the fire, the NH<sub>4</sub> comds. decompose, causing the droplets to expand into a foam.

=> s urea and 1111-78-0

---Logging off of STN---

**REGISTRY INITIATED**

Substance data SEARCH and crossover from CAS REGISTRY in progress...  
Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

L9            709 L8

203514 UREA

9331 UREAS

206328 UREA

(UREA OR UREAS)

L10           320 UREA AND L9

=>

Executing the logoff script...

=> LOG Y

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSPTYLC1626

PASSWORD:

LOGINID/PASSWORD REJECTED

The loginid and/or password sent to STN were invalid.  
You either typed them incorrectly, or line noise may  
have corrupted them.

Do you wish to retry the logon?

Enter choice (y/N):

Connecting via Winsock to STN

LOGINID:

Welcome to STN International! Enter x:

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSPTAYLC1626

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

\* \* \* \* \* Welcome to STN International \* \* \* \* \*

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America  
NEWS 2 "Ask CAS" for self-help around the clock  
NEWS 3 SEP 09 ACD predicted properties enhanced in REGISTRY/ZREGISTRY  
NEWS 4 OCT 03 MATHDI removed from STN  
NEWS 5 OCT 04 CA/Capplus-Canadian Intellectual Property Office (CIPO) added  
to core patent offices  
NEWS 6 OCT 13 New CAS Information Use Policies Effective October 17, 2005  
NEWS 7 OCT 17 STN(R) AnaVist(TM), Version 1.01, allows the export/download  
of Capplus documents for use in third-party analysis and  
visualization tools  
NEWS 8 OCT 27 Free KWIC format extended in full-text databases  
NEWS 9 OCT 27 DIOGENES content streamlined  
NEWS 10 OCT 27 EPFULL enhanced with additional content  
NEWS 11 NOV 14 CA/Capplus - Expanded coverage of German academic research

NEWS EXPRESS NOVEMBER 18 CURRENT VERSION FOR WINDOWS IS V8.01,  
CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),  
AND CURRENT DISCOVER FILE IS DATED 13 JUNE 2005.  
V8.0 USERS CAN OBTAIN THE UPGRADE TO V8.01 AT  
<http://download.cas.org/express/v8.0-Discover/>

NEWS HOURS STN Operating Hours Plus Help Desk Availability  
NEWS INTER General Internet Information  
NEWS LOGIN Welcome Banner and News Items  
NEWS PHONE Direct Dial and Telecommunication Network Access to STN  
NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that  
specific topic.

All use of STN is subject to the provisions of the STN Customer  
agreement. Please note that this agreement limits use to scientific  
research. Use for software development or design or implementation  
of commercial gateways or other similar uses is prohibited and may  
result in loss of user privileges and other penalties.

\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 09:55:23 ON 25 NOV 2005

=> set caplus

CAPLUS IS NOT A VALID SET OPTION

For an explanation of the SET command, enter HELP SET at an arrow  
prompt (=>).

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE TOTAL  
ENTRY SESSION

FULL ESTIMATED COST

0.42

0.42

FILE 'CAPLUS' ENTERED AT 09:56:14 ON 25 NOV 2005  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 25 Nov 2005 VOL 143 ISS 23  
FILE LAST UPDATED: 24 Nov 2005 (20051124/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

<http://www.cas.org/infopolicy.html>

=> set plurals on perm  
SET COMMAND COMPLETED

=> set abbr on perm  
SET COMMAND COMPLETED

=> s ura  
441 URA  
53 URAS  
L1 493 URA  
(URA OR URAS)

=> s urea  
203514 UREA  
9331 UREAS  
L2 206328 UREA  
(UREA OR UREAS)

=> s contamination  
145890 CONTAMINATION  
3843 CONTAMINATIONS  
L3 148520 CONTAMINATION  
(CONTAMINATION OR CONTAMINATIONS)

=> s (L2 and L3) and water  
2308321 WATER  
251452 WATERS  
2363113 WATER  
(WATER OR WATERS)  
L4 188 (L2 AND L3) AND WATER

=> s remove and L4  
187116 REMOVE  
32509 REMOVES

216699 REMOVE

(REMOVE OR REMOVES)

L5

9 REMOVE AND L4

=> d ibib abs total

LS ANSWER 1 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2003:1007471 CAPLUS  
DOCUMENT NUMBER: 140:31103  
TITLE: Process for remediating ground water containing one or more nitrogen compounds  
INVENTOR(S): Spalding, Roy Follansbee; Khan, Imtiyaz Ahmed  
PATENT ASSIGNEE(S): Hydro-Trace, Inc., USA  
SOURCE: U.S. Pat. Appl. Publ., 9 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003234224	A1	20031225	US 2003-420576	20030421
PRIORITY APPLN. INFO.:			US 2002-373911P	P 20020419

AB A process for treating groundwater containing nitrogen compds., including ammonia, urea and nitrate, is provided. The groundwater is extracted downgradient of the source of contamination and mixed with a chemical oxidant to oxidize the nitrogen component to nitrogen gas.

The chemical oxidant may be any suitable oxidant, including a halogenated oxidant, such as a hypochlorite, hypobromite or hypiodite compound, and Fenton's reagent, or combinations thereof. The groundwater can be further treated as desired to remove residual oxidants, as well as nitrate, to provide a processed water having characteristics suitable for discharge with limited to no adverse impact on the discharge environment.

LS ANSWER 2 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1997:554301 CAPLUS  
DOCUMENT NUMBER: 127:195054  
TITLE: Evaluation of stormwater quality, impacts and solutions for Bradley International Airport  
AUTHOR(S): Bingham, David R.; Reilly, John F.; Scott, Kevin W.; Daly, Kenneth J.; Julian, Robert F.; Fijol, Edwin J.  
CORPORATE SOURCE: Metcalf and Eddy, Inc., Wakefield, MA, 01880, USA  
SOURCE: Proceedings - WEFTEC '96, Annual Conference & Exposition, 69th, Dallas, Oct. 5-9, 1996 (1996), Volume 4, 91-100. Water Environment Federation: Alexandria, Va.  
CODEN: 64VGAN

DOCUMENT TYPE: Conference  
LANGUAGE: English  
AB During winter conditions at most North American Airports aircraft anti-icing and deicing is required, as a public safety measure, to ensure proper aircraft function. Typically, this procedure involves the spraying of a glycol-based deicing fluid (ethylene and propylene glycol) mixed with hot water on the aircraft skin to remove accumulated frost, snow and ice (deicing). The glycol in the spray that adheres to the aircraft surface acts as a f.p. depressant and serves to inhibit subsequent accumulation of snow, ice and frost (anti-icing). In certain instances, this practice can lead to the contamination of downstream receiving waters. At Connecticut's Bradley International Airport (BDL) a four year study of deicing practices, airport operations, and stormwater and receiving water quality culminated with the implementation of a long-term stormwater control plan. The stormwater pollutants of primary concern at BDL include aircraft deicing and anti-icing chems. (propylene glycol, and UCAH which is predominantly ethylene glycol and urea), aircraft and vehicle fuels, oils and lubricants, and metals. During the course of the project, several short-term controls were also introduced. These included the use of vacuum/scrubber trucks to collect deicing fluid at the departure gates, addnl. training of airline personnel to minimize vols. of deicing fluid applied, and limited centralized deicing. The recommended long-term control plan for Bradley consists of the construction of centralized deicing pads that have separated drainage, with the potential in the future for separation and management of terminal area drainage such that deicing can be performed routinely at the gates. The development of these controls was the result of a cooperative effort by the Airport Administration and engineering staff at the Connecticut Department of Transportation (CTDOT), the airport tenants (airlines and other carriers, fixed-based-operators, and others), the Town of Windsor, and the Connecticut Department of Environmental Protection (CTDEP).

LS ANSWER 3 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1997:554255 CAPLUS  
DOCUMENT NUMBER: 127:209354  
TITLE: In situ precipitation of an iron based grout  
AUTHOR(S): Hapka, A.; Whang, J.  
CORPORATE SOURCE: DuPont Environmental Remediation Services, USA  
SOURCE: Proceedings - WEFTEC '96, Annual Conference & Exposition, 69th, Dallas, Oct. 5-9, 1996 (1996), Volume 3, 185-192. Water Environment Federation: Alexandria, Va.  
CODEN: 64VGAN  
DOCUMENT TYPE: Conference  
LANGUAGE: English  
AB A method of precipitating iron hydroxides and oxyhydroxides using industrial co-product solns. as the iron source has been developed in the laboratory. This method has three subsurface applications designed to protect a community groundwater supply from contamination. This grout can be used to create a low permeability barrier to divert the flow of groundwater around a contamination source. Another application is to create a flow-through treatment zone which removes contamination from groundwater as the groundwater passes through the zone. The third application is co-precipitation. Co-precipitation requires the simultaneous injection of an iron solution and neutralizer into a contaminated area and contaminants co-precipitate with the iron. Iron hydroxides and oxyhydroxides can be precipitated in situ using one of two methods. Either a low to moderate pH iron solution and a neutralizer are mixed as they are injected, or an iron solution with additives to cause a gradual pH increase is injected. Before injection both systems have viscosities close to that of water. These in situ precipitation methods were developed by first identifying a chelating agent and neutralizer combination with which high concentration industrial coproduct iron solns. of pH < 0 can be partially neutralized without significant precipitation. The combination that achieved this objective most effectively is citric acid as a chelating agent and sodium hydroxide as a neutralizer. Next the system to cause a gradual pH increase for the single injection system was developed. The gradual pH increase is generated by a combination of urea and urease. Urease is an enzyme that breaks down urea. Soil columns were grouted to simulate these two precipitation methods to determine what hydraulic conductivities are achievable. Laboratory permeability measurements indicate that precipitation of such solns. in soil with a permeability of 10-2 cm/s can result in permeabilities of either 10-7 cm/s or 10-2 cm/s depending on the precipitation method. The iron hydroxides formed by this grout may adsorb contaminants and further retard their spread. The effectiveness of iron solution to co-precipitate arsenic was tested. In initial laboratory expts., iron chloride solns. reduced arsenic from 1 ppm to 55 ppb in contaminated groundwater.

LS ANSWER 3 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

LS ANSWER 4 OF 9 CAPLUS COPYRIGHT 2005 ACS ON STN

ACCESSION NUMBER: 1996:262706 CAPLUS  
DOCUMENT NUMBER: 124:287665  
TITLE: Composition for eliminating unsanitary residues from food products of animal and vegetable origin and method for its use  
INVENTOR(S): Balsano, Antonio Renato  
PATENT ASSIGNEE(S): Chimica Industriale Dr. Balsano, Italy  
SOURCE: PCT Int. Appl., 44 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 2  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9602154	A1	19960201	WO 1995-IT115	19950711
W: AU, BR, CA, CN, FI, JP, KR, MX, NO, RU, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2195100	AA	19960201	CA 1995-2195100	19950711
AU 9528980	A1	19960216	AU 1995-28980	19950711
EP 771153	A1	19970507	EP 1995-924497	19950711
EP 771153	B1	19990818		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT,				
SE				
CN 1157557	A	19970820	CN 1995-194985	19950711
CN 1071558	B	20010926		
AT 183369	E	19990915	AT 1995-924497	19950711
RU 2141207	C1	19991120	RU 1997-102042	19950711
ES 2137529	T3	19991216	ES 1995-924497	19950711
PRIORITY APPLN. INFO.:			IT 1994-M11479	A 19940714
			WO 1995-IT115	W 19950711

AB A composition is provided useful for decontaminating surfaces of food products of animal and vegetable origin, in particular for eliminating microbial loadings and unsanitary substances, without altering and making noxious the food texture. The composition does not contain any disinfectant or antibacterial active agents. Moreover, a method is disclosed for using the composition, comprising the steps of subjecting the food product to a bath of an aqueous solution of the composition and subsequently rinsing by water in order to remove polluting substances. The composition consists of sodium sulfate 10-25%, cellulose 0.4-6%, propylene glycol 0.5-5%, surfactant (sodium or triethanolamine alkylbenzenesulfonate) 1-7%, bleaching agent (sodium carbonate, sodium bicarbonate, potassium carbonate) 5-14%, sequestering agent (sodium esmethaphosphate, sodium tripolyphosphate, trisodium edetate) 4-8%, antidehydrating agent (urea, sodium chloride) 1-7.5%, buffering agent (sorbic acid, citric acid, malic acid) 0.5-2%, and emulsifying agent (sodium methasilicate, sodium orthophosphate) 30-70%. The composition was used for decontaminating food products such as poultry and pork meats, eggs, and vegetables and fruits. When applied as a scalding bath for chicken meat, there was an improvement of the plucking step, a reduction of the skin abrasions, an absence of residual slime and a consequent quick drying and, finally, a greater preservation duration at 2-3° without any

LS ANSWER 5 OF 9 CAPLUS COPYRIGHT 2005 ACS ON STN

ACCESSION NUMBER: 1972:23405 CAPLUS  
DOCUMENT NUMBER: 76:23405  
TITLE: Metabolic instability of myelin protein and proteolipid fractions  
AUTHOR(S): D'Monte, Brian; Mela, Paula; Marks, Neville  
CORPORATE SOURCE: New York State Inst. Neurochem. Drug Addict., New York, NY, USA  
SOURCE: European Journal of Biochemistry (1971), 23(2), 355-65  
CODEN: EJBCAI; ISSN: 0014-2956  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Turnover of protein components of myelin in vivo was comparable to that of other brain proteins. Myelin was purified, to remove soluble contamination, by water shock (fraction M2) and centrifugation on sucrose and CsCl gradients. These methods gave 2 fractions, 1 of which consisted of characteristic myelin membranes free of visible contamination (M3), and the 2nd consisted of fragmented membranes and vesicles (M4). Incorporation following intracisternal injection of lysine-14C occurred at later time periods in myelin compared to mitochondria, probably as a result of different rates for penetration of precursor. The half-lives for the different categories of protein and proteolipid components prepared by Triton X-100 acetate procedures were markedly heterogeneous. In myelin, the highest incorporation occurred in the soluble basic proteins with half-lives of 14-21 days (fraction III), followed by the interface (Folch-Lees, fraction II) material with half-lives of 12-24 days, and the insol. proteins (Wolffgram, fraction III) with half-lives of 28-32 days. The half-lives varied with the pulse periods used (15-360 min) and give evidence of both short-lived and long-lived proteins. Heterogeneity of turnover was supported by the complex discgel patterns found with electrophoresis on acrylamide using a phenol-urea solvent system for solubilization. In comparable mitochondrial fractions, incorporation was highest in the interface material (half-life 6-4 days), followed by insol. proteins (half-life 3-6 days), and lowest in the soluble (brain) fraction (half-life 6-26 days). Considerable hydrolase activity was observed in crude fractions and in hypotonic myelin fractions, particularly acid and neutral proteinases, aminopeptidase, and monoacyl and dipeptidyl arylamidases. It appears that hydrolases associated with the sheath could be involved in turnover, but in most cases are not associated with the highly purified membranes prepared in sucrose and CsCl gradients. Purification resulted in an increased sp. activity of an aminopeptidase hydrolyzing Leu-Gly-Gly as the substrate, and of ribonucleoside-2':3'-cyclic-phosphate esterase. It is concluded that these 2 hydrolases are intrinsic components of the myelin sheath membranes.

LS ANSWER 4 OF 9 CAPLUS COPYRIGHT 2005 ACS ON STN (Continued)  
altering processes.

LS ANSWER 6 OF 9 CAPLUS COPYRIGHT 2005 ACS ON STN

ACCESSION NUMBER: 1971:425150 CAPLUS  
DOCUMENT NUMBER: 75:25150  
TITLE: Operation and monitoring of man-made swimming pools  
AUTHOR(S): Jentsch, F.; Havemeister, G.  
CORPORATE SOURCE: Hyg.-Inst., Univ. Kiel, Kiel, Fed. Rep. Ger.  
SOURCE: Gesundheitswesen und Desinfektion (1971), 63(2), 19-23  
CODEN: GEDEAL; ISSN: 0016-9315  
DOCUMENT TYPE: Journal  
LANGUAGE: German  
AB The rated capacity of a pool depends on its circulatory capability: 2 m3 of water being allotted to each bather. The use of toilet and shower should be mandatory prior to entering the pool. The water should be continuously circulated and treated. Flocculation with Al2(SO4)3 at pH <7.2 or with FeCl3 removes colloidal contamination. Gravel filtration is used to retain suspended matter: the layer depth should be 0.9 m for open and 1.2 m for closed filters. An O3-activated C stage then oxidatively degrades a portion of the organic impurities and removes N-compds. such as NH3 and urea at the activated C filter. Chlorination, pH control, and fresh water replenishment round out the required treatment. Control tests consist of checking the clarity (turbidity), pH measurement (6.5 and 7.2, if Al2(SO4)3 is used), Cl2 content (0.3 and 0.6 mg/l.),

NH4+ (0.1 mg/l.), NO2- 0.01 mg/l., NO3- 10-20 mg/l.), KMnO4 demand, and PO43- content (not in excess of that of the fresh water replenishment), Cl-, and bacteria count (<100 in 1 ml and no detectable Escherichia coli bacteria in 100 ml).



LS ANSWER 7 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1968:81219 CAPLUS  
 DOCUMENT NUMBER: 68:81219  
 TITLE: Effluents of the Sindri fertilizers factory  
 AUTHOR(S): Pressed, R. R.; Dutta, Bimal K.  
 CORPORATE SOURCE: Fertilizer Corp. India Ltd., Sindri, India  
 SOURCE: Technology (Sindri, India) (1966), 3(4), 65-8  
 CODEN: TCNOAQ; ISSN: 0040-1641  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB Effluent characteristics from the power plant, coke oven plant, gas plant ammonia plant, sulfate plant, and those of urea and double-salt plants of Fertilizer Corporation of India, Sindri, are reported. A total waste volume of 4 million gal. from all the units goes to the Damodar River, which has restricted flow because of a dam across the river at Panchet, downstream from the discharge outlets. Owing to limited water flow across the dam during certain times of the year it was considered necessary to adopt a plan to control pollution for avoiding contamination of the raw water intake point. Accordingly, effluents from coke oven and gas plants have been diverted to drains carrying effluents from NH<sub>3</sub> and sulfate plants and discharged downstream without any treatment. Pollution contribution from the adjoining cement factory was mentioned also. The local concentration of NH<sub>3</sub> near the discharge point is high. However, a scheme was devised for recovery of NH<sub>3</sub> from coke oven ammoniacal liquor and the chalk slurry unit, which if implemented would remove a considerable portion of NH<sub>3</sub> contamination of the Damodar River. A process of phenol removal has also been evolved for adoption if necessary.

LS ANSWER 8 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1957:9232 CAPLUS  
 DOCUMENT NUMBER: 51:9232  
 ORIGINAL REFERENCE NO.: 51:1890a-f  
 TITLE: Synthesis of aromatic isocyanates  
 AUTHOR(S): Kutepov, D. F.; Rozenov, N. S.  
 SOURCE: Zhurnal Obshchei Khimii (1956), 26, 1737-40  
 CODEN: ZOKHAA; ISSN: 0044-460X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Unavailable  
 AB The procedures cited in Swiss Patents 215,291-215,329 (C.A. 42, 6853) usually gave poor yields of the reported aryl isocyanates with much contamination by substituted ureas. The following modifications are advised. To 35 g. COCl<sub>2</sub> in 38 g. dry EtOAc at 0-5° was added 15 g. 2,4,5-Cl<sub>3</sub>C<sub>6</sub>H<sub>2</sub>NH<sub>2</sub> in 83 ml. EtOAc; after 20 min. at 0° and 30-50 min. at 20°, during which COCl<sub>2</sub> was passed through the mixture, there was obtained a precipitate of 74.6% 2,4,5-trichlorophenylcarbamoyl chloride (I). Similarly was prepared 3,4,5-trichloro isomer, which is isolated from EtOAc solution by evaporation at 10° in vacuo. I in dry (CH<sub>2</sub>Cl)<sub>2</sub> was heated on a water bath 2.5 hrs. yielding a precipitate of 2,2',4,4',5,5'-hexachlorodiphenylurea (II), m. 304°, while the filtrate on evaporation at room temperature gave 2,4,5-trichlorophenyl isocyanate, m. 61°. Similarly was prepared the 3,4,5-trichloro isomer, m. 53.5°. The yields are about 75%. Slow distillation of EtOAc from its solution of I followed by extraction of the solid residue with CCl<sub>4</sub> gave some II and the more soluble Et 2,4,5-trichlorophenylcarbamate (III), m. 92°. Similarly was prepared the 3,4,5-trichloro isomer, m. 132.5°. III also formed satisfactorily from 2,4,5-Cl<sub>3</sub>C<sub>6</sub>H<sub>2</sub>NH<sub>2</sub> and EtO<sub>2</sub>CCl after 3 hrs. on a steam bath; similarly were prepared: Me ester, m. 103°, and Pr ester, m. 70°. Heating I with EtOH 3 hrs. on a steam bath also gave III. I with ClCH<sub>2</sub>CH<sub>2</sub>OH in 3 hrs. at 129° gave 2-chloroethyl 2,4,5-trichlorophenyl carbamate, m. 98-100° (from CHCl<sub>3</sub>). Crude I prepared as above from 32 g. COCl<sub>2</sub> and 10 g. 2,4,5-Cl<sub>3</sub>C<sub>6</sub>H<sub>2</sub>NH<sub>2</sub> was freed of EtOAc and the residue was extracted with CHCl<sub>3</sub>; the extract gave about 50% crude 2,4,5-trichlorophenyl isocyanate, m. 55-61°, while the insol. residue was II. The use of 3,4,5-Cl<sub>3</sub>C<sub>6</sub>H<sub>2</sub>NH<sub>2</sub> in such a procedure gave only the corresponding hexachlorodiphenylurea. A solution of crude I in EtOAc (from 10 g. amine) was diluted with 200 ml. EtOAc and kept at 20° at water pump vacuum to remove HCl and COCl<sub>2</sub> (and some EtOAc), was finely heated to 30° and the residue was extracted with CHCl<sub>3</sub> yielding 74.24% 2,4,5-trichlorophenyl isocyanate, m. 60-1° while the small residue contained II. Heating 3 g. I in 75 ml. EtOAc, presatd. with HCl, for 50 min. on a steam bath gave on cooling 1.15 g. solid, decompose 170-9° containing 15.5% Cl, identified as 2,4,5-Cl<sub>3</sub>C<sub>6</sub>H<sub>2</sub>NH<sub>2</sub>.HCl. Evaporation of the filtrate gave more of the same and 0.14 g. II.

LS ANSWER 9 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1954:59969 CAPLUS  
 DOCUMENT NUMBER: 48:59969  
 ORIGINAL REFERENCE NO.: 48:10519a-i  
 TITLE: Investigation of synthetic fingerprint solutions  
 AUTHOR(S): Eisler, Stanley J.; Faigen, Harry L.  
 CORPORATE SOURCE: Rock Island Arsenal, Rock Island, IL  
 SOURCE: Corrosion (Houston, TX, United States) (1954), 10, 237-42  
 CODEN: CORRAK; ISSN: 0010-9312  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Unavailable  
 AB One of the most common and troublesome of the corrosion-accelerating contaminants encountered in preparing material for storage is the fingerprint residue from manual handling. These residues can be removed by aqueous alkaline or emulsion cleaners, but are not removed from steel surfaces by the usual solvent or solvent vapor degreasing procedure and produce corrosion under most rust preventives applied after contamination. Suitable cleaners should remove these and other acidic or salt-type impurities and deposit temporary rust-preventive films which are compatible with the more permanent coatings. Analyses of human sweat are given; these show considerable variation between individuals and body areas. Tests were made of the corrosive effect of human fingerprints (selected from staff members known to have corrosive fingerprints) on steel panels in comparison with prints made with various synthetic fingerprint solns. These solns. contained NaCl, urea, lactic acid, and sometimes other organic and inorg. compds. and had a pH ranging from 3.43 to 7.5. The "Specification A4S 1719 solution" contained (in mg. per 100 cc.) NaCl 700, urea 100, lactic acid 400, distilled water 125 cc.; this solution was made up to 1 l. with MeOH, and had a pH of 3.43. Prints made with this solution were found to be more difficult to remove than the most active natural prints encountered in these tests. In spite of variations in composition the other synthetic fingerprint solns. tested were equally effective, but it is believed that the specification solution corresponds most closely to that of sweat from the hands, which differs in composition from that of general body sweat.

```
=> s urea
      203514 UREA
      9331 UREAS
L6    206328 UREA
      (UREA OR UREAS)
```

```
=> d scan
```

L6 206328 ANSWERS CAPLUS COPYRIGHT 2005 ACS on STN  
 CC 78-7 (Inorganic Chemicals and Reactions)  
 Section cross-reference(s): 75  
 TI Reactions of a (N,N,O)Zn-OH complex with heterocumulene derivatives  
 ST zinc picolyl hydroxylatetertbutylbenzylamine heterocumulene complex prepn  
 crystal mol structure  
 IT INDEXING IN PROGRESS  
 IT 2131-61-5, p-Nitrophenylisothiocyanate  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reactions of (N,N,O)Zn-OH complex with heterocumulene derivs.)

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):5

L6 206328 ANSWERS CAPLUS COPYRIGHT 2005 ACS on STN  
 IC ICM C07D309-30  
 CC 26-6 (Biomolecules and Their Synthetic Analogs)  
 TI Novel method for synthesis of Simvastatin  
 ST Simvastatin synthesis Lovastatin methylation lactonization  
 IT Lactonization  
 Methylation  
 (synthesis of Simvastatin)  
 IT 74-88-4, Methyl iodide 109-73-9, n-Butylamine 18297-63-7,  
 Bis(trimethylsilyl)urea 75330-75-5, Lovastatin  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (synthesis of Simvastatin)  
 IT 134970-29-99 134970-33-5P 405225-86-7P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (synthesis of Simvastatin)  
 IT 79902-63-9P, Simvastatin  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (synthesis of Simvastatin)

L6 206328 ANSWERS CAPLUS COPYRIGHT 2005 ACS on STN  
 IC ICM A61K007-48  
 ICS A61K031-045; A61K047-00  
 CC 62-4 (Essential Oils and Cosmetics)  
 TI Cold gel  
 ST gel cosmetic  
 IT Aesculus hippocastanum  
 Arnica montana  
 Gelation agents  
 Hamamelis virginiana  
 Ruscus aculeatus  
 (cold gel)  
 IT Petroleum oils  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (cold gel)  
 IT Cosmetics  
 (gels; cold gel)  
 IT 94-13-3, Propylparaben 94-26-8, Butylparaben 99-76-3, Methylparaben  
 120-47-8, Ethylparaben 122-99-6, Phenoxylethanol 143-07-7, Lauric  
 acid,  
 biological studies 9003-05-8, Polyacrylamide 78491-02-8, Diazolidinyl  
 urea  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (cold gel)

L6 206328 ANSWERS CAPLUS COPYRIGHT 2005 ACS on STN  
 CC 7 (Enzymes)  
 TI Intersubunit Interaction Induced by Subunit Rearrangement Is Essential  
 for  
 the Catalytic Activity of the Hyperthermophilic Glutamate Dehydrogenase  
 from Pyrobaculum islandicum

L6 206328 ANSWERS CAPLUS COPYRIGHT 2005 ACS on STN  
CC 60 (Waste Treatment and Disposal)  
TI Sequential batch culture studies for the decolorisation of reactive dye  
by  
Coriolus versicolor

L6 206328 ANSWERS CAPLUS COPYRIGHT 2005 ACS on STN  
CC 36 (Physical Properties of Synthetic High Polymers)  
TI In situ polymerisation of urethane-urea copolymers for tuff  
consolidation

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):n

```
=> s water and urea
    2308321 WATER
    251452 WATERS
    2363113 WATER
        (WATER OR WATERS)
    203514 UREA
    9331 UREAS
    206328 UREA
        (UREA OR UREAS)
L7      36088 WATER AND UREA
```

```
=> s heat and L7
    1248537 HEAT
    54473 HEATS
    1262831 HEAT
        (HEAT OR HEATS)
L8      2536 HEAT AND L7
```

```
=> 1111-78-0 and l8
1111-78-0 IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).
```

```
=> ammonium carbamate and l8
AMMONIUM IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).
```

```
=> s 1111-78-0 and l8
REGISTRY INITIATED
Substance data SEARCH and crossover from CAS REGISTRY in progress...
Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.
```

```
L10      709 L9
```

```
L11      16 L10 AND L8
```

```
=> d his
```

```
(FILE 'HOME' ENTERED AT 09:55:23 ON 25 NOV 2005)
```

```
FILE 'CAPLUS' ENTERED AT 09:56:14 ON 25 NOV 2005
```

```
    SET PLURALS ON PERM
```

```
    SET ABBR ON PERM
```

```
L1      493 S URA
L2      206328 S UREA
L3      148520 S CONTAMINATION
L4      188 S (L2 AND L3) AND WATER
L5      9 S REMOVE AND L4
L6      206328 S UREA
L7      36088 S WATER AND UREA
```

L8            2536 S HEAT AND L7  
              S 1111-78-0/REG# AND L8

              FILE 'REGISTRY' ENTERED AT 10:09:38 ON 25 NOV 2005  
L9            1 S 1111-78-0/RN

              FILE 'CAPLUS' ENTERED AT 10:09:38 ON 25 NOV 2005  
L10           709 S L9  
L11           16 S L10 AND L8

=> d ibib abs total

L11 ANSWER 1 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2004:965466 CAPLUS  
DOCUMENT NUMBER: 141:400081  
TITLE: High-temperature method for treating megalopolis waste  
INVENTOR(S): with carbon utilization and hydrogen generation  
PATENT ASSIGNEE(S): Kuznetsov, Gennady  
SOURCE: Russia  
PCT Int. Appl., 14 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Russian  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004097298	A1	20041111	WO 2003-RU300398	20030901
W: AE, AU, BR, CA, CN, IL, IN, JP, KR, MX, NO, NZ, SG, US				
RW: AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
PRIORITY APPLN. INFO.:			RU 2003-112763	A 20030429

AB The method consists of heating wastes to 2000° in a furnace in the absence of air by circulating a high-temperature heat carrier (CO<sub>2</sub> at 2300°) through refractory and high-strength tubes arranged in the furnace bottom area to destroy dangerous substances, melting most of the metals and oxides and also graphitizing carbon-containing substances. High-temperature reduction of carbon dioxide, introduced into the insulated volume of the furnace, by the C from the wastes gives carbon monoxide which, when stoichiometrically mixed with water vapor and calcium oxide, participates in a hydrogen producing reaction outside the furnace and makes it possible to prevent discharge of CO and CO<sub>2</sub> into the air and to use carbon extracted from the waste. The calcite obtained can be used

as a raw material for obtaining the CaO and CO<sub>2</sub> used in the process. The process can be carried out during nighttime hours local time when the energy consumption is lower than during daylight, so that water electrolysis is used for the addnl. hydrogen production. After use as heat carrier, CO<sub>2</sub> may be reacted with NH<sub>3</sub> to obtain ammonium carbamate which is easily converted to urea and water.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L11 ANSWER 2 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2002:349145 CAPLUS  
DOCUMENT NUMBER: 136:356775  
TITLE: Process for the manufacture of urea from ammonia and carbon dioxide  
INVENTOR(S): Yoshida, Kinichi; Yoshimoto, Kenji; Kojima, Yasuhiko  
PATENT ASSIGNEE(S): Toyo Engineering Corporation, Japan; Pt Pupuk Sriwidjaja  
SOURCE: Eur. Pat. Appl., 22 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1203765	A2	20020508	EP 2001-125270	20011024
EP 1203765	A3	20031008		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2002145850	A2	20020522	JP 2000-334395	20001101
US 2002082451	A1	20020627	US 2001-984486	20011030
US 6426434	B2	20020730		
BR 2001004896	A	20030408	BR 2001-4896	20011031
PRIORITY APPLN. INFO.:			JP 2000-334395	A 20001101

AB A urea synthesis process with improved heat economy is described where a urea synthesis solution obtained by removing most of the unreacted ammonium carbamate by stripping with carbon dioxide at a pressure approx. equal to a urea synthesis pressure is subjected to a high and low pressure decomposition. The gas mixture obtained from the high-pressure decomposition is condensed in at least two steps. Gases obtained from the stripping of the urea synthesis solution, after an initial condensation, may be alternatively routed into the high-pressure decomposition column thus facilitating the decomposition of unreacted ammonium carbamate; may be mixed with off-gases from the high-pressure decomposition column and routed to an indirect heat-exchanger for concentrating the aqueous urea solution and facilitating the condensation of the off-gases from the high pressure decomposition column; or may be routed to a condenser for the gas mixture obtained from the high-pressure decomposition after it has undergone indirect heat exchange with the aqueous urea solution, thus facilitating the further condensation of these gases.

L11 ANSWER 3 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2001:923751 CAPLUS  
DOCUMENT NUMBER: 136:39113  
TITLE: Process for the thermal decomposition of an aqueous carbamate solution coming from the urea-recovery section of a urea-production plant  
INVENTOR(S): Paganì, Giorgio; Zardi, Federico; Romiti, Domenico  
PATENT ASSIGNEE(S): Urea Casale S.A., Switz.  
SOURCE: PCT Int. Appl., 15 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 2  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001096288	A1	20011220	WO 2001-EP6775	20010615
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 2001072480	A5	20011224	AU 2001-72480	20010615
EP 1289943	A1	20030312	EP 2001-951596	20010615
EP 1289943	B1	20040901		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
AT 275128	E	20040915	AT 2001-951596	20010615
RU 2247108	C2	20050227	RU 2002-135632	20010615
US 2003013914	A1	20030116	US 2002-49686	20020215
US 6649795	B2	20031118		
PRIORITY APPLN. INFO.:			EP 2000-112688	A 20000615
			WO 2001-EP6775	W 20010615

AB In a process for decomposing a carbamate (e.g., ammonium carbamate) aqueous solution coming from a urea-recovery section of a urea-production plant at a predetd. temperature by indirect heat exchange with a heating fluid having a different predetd. temperature, the temperature difference between the carbamate aqueous solution and the heating fluid is reduced to

570°; process flow diagrams are presented.  
REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L11 ANSWER 4 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2001:581855 CAPLUS  
DOCUMENT NUMBER: 135:153602  
TITLE: Process for preparing melamine from urea by returning ammonium carbamate  
INVENTOR(S): De Wit, Nora, Anna  
PATENT ASSIGNEE(S): DSM N.V., Neth.  
SOURCE: PCT Int. Appl., 9 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001057000	A1	20010809	WO 2001-NL47	20010124
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
NL 1014280	C2	20010806	NL 2000-1014280	20000203
CA 2398989	AA	20010809	CA 2001-2398989	20010124
EP 1252149	A1	20021030	EP 2001-906412	20010124
EP 1252149	B1	20050601		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2003521540	T2	20030715	JP 2001-556850	20010124
AT 296813	E	20050615	AT 2001-906412	20010124
TW 555750	B	20031101	TW 2001-90101682	20010129
NO 2002003621	A	20020730	NO 2002-3621	20020730
US 2003040624	A1	20030227	US 2002-210876	20020802
US 6617455	B2	20030909		
PRIORITY APPLN. INFO.:			NL 2000-1014280	A 20000203
			WO 2001-NL47	W 20010124

AB The process at elevated temperature and in the presence of a catalyst contacting a gaseous product stream (P) with a liquid coolant (C) in a cooling zone and returning the concentrated aqueous carbamate solution from the absorption zone to a cooling zone, wherein C is cooled by passing through the scrubbing section cooled with a heat exchanger. Thus, introducing ammonia to a cylindrical fluidized bed (A) through a gas distribution plate and heated to 390° and 0.7 MPa, spraying liquid urea into A with a rate of 1.4 tonnes/h using ammonia of 0.7 tonnes/h as atomizing gas gave a gas stream containing NH<sub>3</sub>, CO<sub>2</sub> and melamine vapor with a conversion of water-free urea to melamine 93%, which was cooled in the cooling zone with C, wherein a proportion of concentrated aqueous carbamate solution was then returned from the absorption zone to the cooling zone.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

ACCESSION NUMBER: 1996:687227 CAPLUS  
 DOCUMENT NUMBER: 125:307809  
 TITLE: Simplified and efficient process for reducing NOx, SOx and particulates in flue gases  
 INVENTOR(S): Michalak, Stanislaw; Comparato, Joseph R.; Hofmann, John E.  
 PATENT ASSIGNEE(S): Nalco Fuel Tech, USA  
 SOURCE: PCT Int. Appl., 31 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 3  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9628380	A1	19960919	WO 1996-US3578	19960315
W: BR, CN, CZ, HU, MX, UA				
US 5658547	A	19970819	US 1995-406206	19950316
PRIORITY APPLN. INFO.:			US 1995-406206	A 19950316
			US 1994-264864	A2 19940630

AB In a primary treatment zone, a slurry comprising an alkaline SOx-reducing composition and preferably a nitrogen-containing composition effective to reduce NOx is introduced into flue gases at 900°-1100°. The gases are cooled by initial contact with steam-generating means, and then by contact with a gas-to-gas heat exchanger. Cooled gases are then subjected to a secondary treatment in which they are first humidified and further cooled by introduction of a water spray or aerosol to reduce the temperature to ≤100°. Contact between the SOx-reducing composition and the humidified gases is maintained for a reaction period of at least 2 s. Particulate solids are then separated from the gases with a fabric filter. The cleaned gases are reheated by the gas-to-gas heat exchanger prior to discharge to the atmosphere. Reduction of >80% of SOx is achieved.

ACCESSION NUMBER: 1991:165684 CAPLUS  
 DOCUMENT NUMBER: 114:165684  
 TITLE: Preparation of absorbent acrylic polymers using nitrogen-containing blowing agents  
 INVENTOR(S): Scholz, Ulrich; Ritzberger, Klaus  
 PATENT ASSIGNEE(S): Chemie Linz G.m.b.H., Austria  
 SOURCE: Austrian, 6 pp.  
 CODEN: AUXKAK  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
AT 391321	B	19900925	AT 1988-2108	19880829
AT 8802108	A	19900315		
PRIORITY APPLN. INFO.:			AT 1988-2108	19880829

AB In the title process, giving absorbents with less gel blocking and low residual monomer and H<sub>2</sub>O contents, neutralized (50-100%) (meth)acrylic acid is copolymerized with addition of heat-activated N-containing blowing agents (preferably urea or NH<sub>4</sub> salts) before or after polymerization (but before drying at 80-250°), increasing neutralization to 102-140%. Thus, 950 mL water containing 300 g acrylic acid, 127.2 g NaOH, and 115 mg triacryloylperhydro-s-triazine (75% neutralized) was mixed with 50 g NH<sub>4</sub> carbonate, increasing neutralization to 106%, and heated with a catalyst at 80° for 99 min. Polymerization was conducted (after catalyst addition) for 99 min at 80° and the product was dried 5 h at 150° and 20 mbar. Drying at 80° gave an absorbent with absorption of synthetic urine 76 mL/g and residual monomer content 930 ppm.

ACCESSION NUMBER: 1989:406452 CAPLUS  
 DOCUMENT NUMBER: 111:6452  
 TITLE: Fouling of carbonate decomposer in urea plant  
 AUTHOR(S): Bannatwala, S. K.; Sahani, A. K.  
 CORPORATE SOURCE: Gujarat Narmada Valley Fert. Co. Ltd., Bharuch, 392 015, India  
 SOURCE: Fertiliser News (1989), 34(2), 17-19  
 CODEN: FENEQA; ISSN: 0015-0266  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB Deposition of corrosion product on tubes of medium- and low-pressure decomposers (both of which were falling-film heat exchangers) resulted in production loss of 100 metric tons/day of urea. Scale on medium-pressure decomposer tubes consisted mainly of Fe and Ti oxides, whereas Fe, Cr, and Ni oxides were the main constituents of deposits on low-pressure decomposer tubes. Cleaning of the exchangers with the high-pressure water jet method increased decomposition efficiency by >15%.



L11 ANSWER 8 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1988:512325 CAPLUS  
 DOCUMENT NUMBER: 109:112325  
 TITLE: Molten urea for digestion of lignocellulose, and for chemical reaction with polyols from the digestion or with other polyols  
 INVENTOR(S): Autenrieth, Dieter Ekkehard  
 PATENT ASSIGNEE(S): Fed. Rep. Ger.  
 SOURCE: Ger. Offen., 11 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3638456	A1	19880519	DE 1986-3638456	19861111

PRIORITY APPLN. INFO.: DE 1986-3638456 19861111

AB Molten, or at least partially molten mixts. containing urea are used in the recovery of polyols by digestion of lignocellulosic raw materials and conversion of the resulting polyols, or of polyols of other sources with 22 alc. and/or phenolic, as well as especially reactive OH groups, e.g., from acetals, ketals, and hemiacetals and ketals. The lignin from the raw material is obtained as highly chemical active, water-soluble polyesters of carbamic acids, whereas the insol. cellulose can be directly used as filler in the polyesters, which are suitable for the production of resins and adhesives for the manufacture of wood particle boards and plywood.  
 Thus 272.3 g C(CH<sub>2</sub>OH)<sub>4</sub> and 480.5 g urea were heated to form a clear, yellow melt. The melt was then covered with xylene and refluxed. After 4.75 h, 51.0 g carbamic acid was removed from the condenser, and 598.2 g semisolid, opaque product was obtained. Refluxing was continued until no more NH<sub>3</sub> developed. After 10 h, 109.2 g addnl. carbamic acid was obtained. The yield was 451.8 g white, sticky material that was dispersed in 600 mL water to give a precipitate that was washed with water, and then dried at 100° to give 43.86 g highly heat-resistant pentaerythritol-derived spiropolyurethanes.

L11 ANSWER 9 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1986:467338 CAPLUS  
 DOCUMENT NUMBER: 105:67338  
 TITLE: Novel thermodynamic and kinetic investigation of ammonium carbamate decomposition into urea and water  
 AUTHOR(S): Claudel, B.; Brousse, E.; Shehadeh, G.  
 CORPORATE SOURCE: Lab. Cinet. Genie Chim., INSA, Villeurbanne, F-69621, Fr.  
 SOURCE: Thermochimica Acta (1986), 102, 357-71  
 CODEN: THACAS; ISSN: 0040-6031  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB The reversible decomposition of ammonium carbamate into urea and H<sub>2</sub>O was investigated from the thermodyn. and kinetic standpoints. The equilibrium conditions were reached from the urea and H<sub>2</sub>O. From the relation of equilibrium constant to molal fractions, an enthalpy of 5.5 kcal mol<sup>-1</sup> is derived. The kinetics of this decomposition were investigated in conditions where the carbamate remains partly solid. It follows the Prout-Tompkins law, which is interpreted by the ability of H<sub>2</sub>O in contact with the solid to create centers of decomposition. The activation energy is .apprx.10 kcal mol<sup>-1</sup>.

L11 ANSWER 10 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1977:533923 CAPLUS  
 DOCUMENT NUMBER: 87:133923  
 TITLE: Integrated two-stage urea synthesis  
 INVENTOR(S): Cook, Lucien H.  
 PATENT ASSIGNEE(S): Chemical Construction Corp., USA  
 SOURCE: U.S., 6 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4042626	A	19770816	US 1972-271072	19720712

PRIORITY APPLN. INFO.: US 1972-271072 A 19720712

AB Urea was manufactured from NH<sub>3</sub> and CO<sub>2</sub> by a 2-stage process, in which the 1st stage of ammonium carbamate (I) formation was in indirect heat exchange with the 2nd stage of I dehydration. Excess NH<sub>3</sub> was sep. preheated by heat exchange with the 2nd stage and added to the main process stream between the 1st and the 2nd stage. Compared to 65% conversion of CO<sub>2</sub> to urea in 1-stage process, CO<sub>2</sub> conversion of 70-2% was obtained in the 2-stage process. In the 2-stage process steam and cooling water consumption were reduced by 13%. A flow diagram of the apparatus is given.

L11 ANSWER 11 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1976:141566 CAPLUS  
 DOCUMENT NUMBER: 84:141566  
 TITLE: Heat capacity of urea-ammonium carbamate-ammonia-water mixtures at 25°  
 AUTHOR(S): Zinov'ev, G. N.; Zinov'eva, L. K.; Kucheryavyi, V. I.  
 CORPORATE SOURCE: USSR  
 SOURCE: Zhurnal Prikladnoi Khimii (Sankt-Peterburg, Russian Federation) (1975), 48(12), 2649-52  
 CODEN: ZPKHAB; ISSN: 0044-4618  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Russian  
 AB Heat capacity Cp was determined of the system (NH<sub>2</sub>)<sub>2</sub>CO-NH<sub>3</sub>-NH<sub>2</sub>CO<sub>2</sub>NH<sub>4</sub>-H<sub>2</sub>O at 25° by using an adiabatic calorimeter. The mean relative exptl. error is 0.7-2.5%.

L11 ANSWER 12 OF 16 CAPLUS COPYRIGHT 2005 ACS ON STN  
 ACCESSION NUMBER: 1972:474499 CAPLUS  
 DOCUMENT NUMBER: 77:74499  
 TITLE: Equilibrium of urea synthesis. II  
 AUTHOR(S): Inoue, Shigeru; Kanae, Kazumichi; Otsuka, Eiji  
 CORPORATE SOURCE: Cent. Res. Lab., Mitsui Toatsu Chem., Inc., Yokohama, Japan  
 SOURCE: Bulletin of the Chemical Society of Japan (1972), 45(6), 1616-19  
 CODEN: BCSJAB; ISSN: 0009-2673  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB In the preceding paper (ibid., 45, 1339 (1972)) it was reported that the existence of the maximum equilibrium conversion was not due to the exptl. method.  
 For this phenomenon was presented the following interpretation. While  $\text{NH}_2\text{CO}_2\text{NH}_4$  is converted to urea and water, it dissociate into  $\text{NH}_3$  and  $\text{CO}_2$  in the solution (not in the gas phase), and the degree of the dissociation increases exponentially as the temperature becomes higher, while the conversion to urea gradually increases. Therefore, at a certain temperature, the equilibrium conversion reaches its maximum value. Although it is nearly impossible to prove anal. the dissociation of  $\text{NH}_2\text{CO}_2\text{NH}_4$  in the solution, the following are observed: 1) The dissociation of  $\text{NH}_2\text{CO}_2\text{NH}_4$  is a great endothermic reaction, even under the conditions of urea synthesis. 2) The value of  $\text{NH}_3/\text{CO}_2$  which gives the min. equilibrium pressure at a usual temperature is not always equal to 2.0, but varies with the temperature. 3) the effect of  $\text{H}_2\text{O}/\text{CO}_2$  on the equilibrium pressure varies with the temperature; that is, when the temperature is  $<200^\circ$ , an increase in  $\text{H}_2\text{O}/\text{CO}_2$  reduces the equilibrium pressure, but when the temperature is  $>200^\circ$ , an increase in  $\text{H}_2\text{O}/\text{CO}_2$  makes the equilibrium pressure higher.

L11 ANSWER 13 OF 16 CAPLUS COPYRIGHT 2005 ACS ON STN  
 ACCESSION NUMBER: 1971:448484 CAPLUS  
 DOCUMENT NUMBER: 75:48484  
 TITLE: Carbamate recycle improvement in the urea synthesis process  
 INVENTOR(S): Mavrovic, Ivo  
 SOURCE: U.S., 8 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3579636	A	19710518	US 1968-729764	19680516
JP 48024383	B4	19730720	JP 1968-76980	19681023
GB 1259976	A	19720112	GB 1969-1259976	19690430
GB 1261170	A	19720126	GB 1969-1261170	19690430
JP 48035059	B4	19731025	JP 1969-90407	19691112
JP 51011087	B4	19760408	JP 1973-119039	19731024
PRIORITY APPLN. INFO.:			US 1968-729764	A 19680516

AB Heat generated in the urea synthesis reactor is used in other operating units including ammonium carbamate decomposition, providing a more efficient process heat balance. The water content of recycled  $\text{NH}_3$  and  $\text{CO}_2$  is reduced and the conversion in the urea reactor is increased in a urea recycle process in which a major portion of the heat generated during the condensation to give aqueous ammonium carbamate solution, is recovered in heat exchange with reactor feed streams to produce steam in a reactor coil.

L11 ANSWER 14 OF 16 CAPLUS COPYRIGHT 2005 ACS ON STN  
 ACCESSION NUMBER: 1968:487949 CAPLUS  
 DOCUMENT NUMBER: 69:87949  
 TITLE: Stabilized polyacrylonitrile spinning solutions  
 INVENTOR(S): Ichikawa, Yasushi; Inai, Yoshikazu; Shiode, Katsumi; Ohfuka, Toshio  
 PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd.  
 SOURCE: U.S., 3 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3399161	A	19680827	US 1965-459439	19650527
PRIORITY APPLN. INFO.:			JP 1964-30056	A 19640529
			JP 1964-36486	A 19640630

AB A polyacrylonitrile polymer solution is prepared by dissolving a polymer of copolymer containing 280% acrylonitrile and 0.01-30% of a carbamic acid, carbamic acid ester, carbamic acid salt, hydroxyurea, cyanourea, guaninurea, or hydroxybiuret as stabilizer in a solvent consisting of 66-75%  $\text{HNO}_3$ . Thus, 100 parts polyacrylonitrile and 0, 0.5, 1, and 2 parts hydroxyurea were dissolved at  $0^\circ$  in 600 parts purified 70%  $\text{HNO}_3$ . With  $\text{HNO}_3$  as a blank solution, extinctions of the spraying solns. were measured at 420 m $\mu$ , the amount of extinction indicating the degree of coloration. The spinning solns. were extruded into 35%  $\text{HNO}_3$ , washed with  $\text{H}_2\text{O}$ , the yarns elongated in boiling water, and dried in hot air, then treated at  $135^\circ$  for 10 min. With superheated steam, the yarn containing no hydroxyurea corresponding to a null or blank test. The yarns had whiteness of 102-10 in the dry state and 100-104 after heat treating as compared with 83 after heat treating without hydroxyurea ( $\text{MqO} = 100$ ). Similarly, solns. contain an acrylonitrile-Me acrylate copolymer with hydroxyurea, an acrylonitrile-acrylamide copolymer with hydroxyurea, polyacrylonitrile with cyanourea, an acrylonitrile-Me acrylate copolymer with hydroxyurea and hydroxybiuret, and polyacrylonitrile with Et carbamate,  $\text{NH}_4$  carbamate, guaninurea, and hydroxybiuret.

L11 ANSWER 15 OF 16 CAPLUS COPYRIGHT 2005 ACS ON STN  
 ACCESSION NUMBER: 1963:447851 CAPLUS  
 DOCUMENT NUMBER: 59:47851  
 ORIGINAL REFERENCE NO.: 59:8588-d-e  
 TITLE: Compressibility of ammonia-carbon dioxide mixtures and reaction equilibrium in the synthesis of urea

AUTHOR(S): Efremova, G. D.; Leont'eva, G. G.  
 SOURCE: Khim. Prom. (1962), (10), 742-6  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Unavailable

AB The changes in the volume of an  $\text{NH}_3$ - $\text{CO}_2$  mixture were measured at 200-400° and 100-300 atmospheric, as a function of the composition of the mixture. The molar volume of the mixture was a linear function of the  $\text{CO}_2$  concentration in the mixture. Sample values at 200° were 300, 330, and 360 cm<sup>3</sup>/mole for  $\text{cCO}_2 = 0, 50, \text{ and } 100 \text{ mole-}\%$ , resp. No cracking of the  $\text{NH}_3$  was observed in the temperature-pressure ranges studied. Some thermodynamic consts. of the process were calculated from data in the literature. The calcons. showed that at 200° and 100 atmospheric no urea can be formed; at 200° and 200 atmospheric, urea was formed only if the  $\text{NH}_3$  concentration in the gas mixture was above 40% by volume, and at 200° and 300 atmospheric urea was formed if the  $\text{NH}_3$  concentration was above 25% by volume. The heat of formation of liquid  $\text{NH}_2\text{CO}_2\text{NH}_4$  from gaseous  $\text{NH}_3$  and  $\text{CO}_2$  is -30,000 cal./mole, that of decomposition of  $\text{NH}_2\text{CO}_2\text{NH}_4$  into urea and water (all 3 liquid) is 3700 cal./mole. The saturated vapor pressure of  $\text{NH}_2\text{CONH}_4$  increases from 12.6 atmospheric at  $106^\circ$  to 96 atmospheric at  $160^\circ$ , and to 800 atmospheric at  $220^\circ$ . 27 references.

L11 ANSWER 16 OF 16 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1930:41509 CAPLUS

DOCUMENT NUMBER: 24:41509

ORIGINAL REFERENCE NO.: 24:4498f-g

TITLE: Resistance of metals to the system: urea-

water-ammonium carbamate

AUTHOR(S): Thompson, J. G.; Kraus, H. J.; Clark, K. G.

SOURCE: Journal of Industrial and Engineering Chemistry

(Washington, D. C.) (1930), 22, 735-6

CODEN: JIECAD; ISSN: 0095-9014

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB Thirty-six different com. corrosion-resistant metals were tested as to

their corrosion and erosion resistance to the system urea

-H<sub>2</sub>O-carbamate at 142° under pressures of 50-75 atmospheric and for 4

days in one test and for 7 days in another. The heat treatment of

the metals seems to be more important than the chemical composition in

resistance

to this particular type of corrosion.

=>

---Logging off of STN---

=>

Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	50.59	102.20
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-11.68	-18.25

STN INTERNATIONAL LOGOFF AT 10:18:19 ON 25 NOV 2005